

CLAIMS:

1. A method of irradiating a layer including:
directing and focussing a radiation beam to a spot on said layer by means of at least one optical element;

causing relative movement of the layer relative to said at least one optical element so that, successively, different portions of the layer are irradiated and an interspace between a surface of said at least one optical element nearest to said layer is maintained; and
maintaining at least a portion of said interspace through which said radiation irradiates said spot on said layer filled with a liquid, the liquid being supplied via a supply conduit and flowing out of an outflow opening;

characterized in that at least one outflow opening via which the liquid flows out is provided in the form of at least one canal open towards said layer, said canal distributing supplied liquid longitudinally along said canal and dispensing distributed liquid towards said layer.

2. A method according to claim 1, wherein the canal or canals are positioned such that, seen in a direction perpendicular to said layer, the canals define a total cross-sectional area having a centre in said portion of said interspace through which the radiation irradiates the spot.

3. A method according to claim 1 or 2, wherein a smallest thickness of said interspace is maintained at 3-1500 μm .

4. A method according to any one of the preceding claims, wherein at least a portion of said liquid fills up a recess through which said radiation irradiates said spot.

5. A method according to claim 4, wherein the recess has a rim portion closest to said layer extending around said radiation irradiating said spot.

6. A method according to claim 4 or 5, wherein said recess includes a concave portion of said surface of said at least one optical element nearest to said layer.
7. A device for directing radiation to a layer including:
5 at least one optical element for focussing a beam of radiation originating from said radiation source to a spot on said layer;
a displacement structure for causing relative movement of the layer relative to said at least one optical element so that, successively, different portions of the layer are irradiated and an interspace between said layer and a surface of said at least one optical
10 element nearest to said spot is maintained; and
an outflow opening for supplying liquid to at least a portion of said interspace through which, in operation, said radiation irradiates said spot on said layer, said outflow opening having a total projected cross-sectional passage area in a plane perpendicular to an axis of said radiation beam;
15 characterized in that the at least one outflow opening is formed by at least one canal open towards said layer, for distributing supplied liquid longitudinally along said canal and dispensing distributed liquid towards said layer.
8. A device according to claim 7, wherein the outflow opening or a plurality of
20 the outflow openings are positioned such that, seen in a direction parallel to said axis of said radiation beam, said total cross-sectional area has a centre in said portion of said gap through which the radiation irradiates the spot.
9. A device according to claim 7 or 8, wherein said displacement structure and
25 said recess are positioned and dimensioned for maintaining a smallest thickness of said interspace at 3-1500 μm .
10. A device according to any one of the claims 7-9, wherein a recess is provided
30 in a surface facing said spot, an internal surface of said recess bounding at least said portion of said interspace through which said radiation irradiates said spot.
11. A device according to claim 10, wherein said recess has a rim portion closest to said layer extending around said portion of said interspace through which, in operation, said radiation irradiates said spot.

12. A device according to claims 10 or 11, wherein said recess includes a concave portion of said surface of said at least one optical element nearest to said spot.